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ISD News & View
Information Services Division
A Newsletter Dedicated To Information Technology In The State Of Montana

Agency Spotlight

Information Highway Links Visitor Information Centers Across Montana

As we gear up for the upcoming tourism season, we find that the Superhost Program has been working hard to prepare information for the inquisitive traveler.

The information highway, linking the Montana Department of Commerce's Superhost Program database with four remote visitor information centers, continues to wind through the technological advances of the Information Age. Information is instantaneously available via computer to residents and out-of-state visitors on Montana's tourism and recreational opportunities, according to Shawn Peterson, Superhost Program manager.

"As visitors' information needs become more sophisticated," Peterson said, "the technological boom of the Information Age enables Travel Montana's Superhost Program to respond instantly to satisfy them."

The four Visitor Information Centers in Culbertson, Dillon, Hardin and West Yellowstone, provide detailed information on Montana's lodging facilities, campgrounds, chambers of commerce, car rental agencies, museums, licensed outfitters, restaurants, and churches. The Visitor Information Center systems (VICs) are designed so travelers can stop in and ask questions about the facilities and services in a particular city.

Travel Montana provided each center with a 486 computer, HP LaserJet 4 printer and developed the Superhost tourism and recreational database. The Superhost Program database currently contains about 5,000 records in a Windows FileMaker database designed for ease of use and training. These centers are a cooperative effort with a number of local communities--Travel Montana provided furniture, a computer system and some money for staffing, everything else was paid for by the local community.

Information is downloaded daily or weekly from Travel Montana in Helena as needed and also includes Montana road and weather reports and ski conditions. Each of the centers has a dedicated phone line so updates can be done at any time if needed (PCAnywhere is used for communications). This past year travelers were able to obtain information about fire conditions

instantaneously and know which recreational areas were closed to the public.

Travel Montana is currently working with a wide variety of state and federal agencies to develop a more comprehensive system which will be distributed throughout the state via multimedia kiosk units. Some of the agencies involved are: Montana's ten National Forests (US Forest Service), Bureau of Land Management (BLM), Bureau of Reclamation, Montana Department of Transportation (MDOT), Travel Montana, Montana Department of Fish, Wildlife & Parks (FW&P), US Fish & Wildlife Service, National Park Service, Montana Historical Society, U.S. Corps of Engineers, and Montana Extension Service. The goal of this project will be to develop a database of all tourism and recreation available in our state. Work is also underway to convert this data into HTML (HyperText Markup Language) documents which will be made available to Internet users via Travel Montana's World Wide Web Server.

"As visitors' information needs become more sophisticated," Peterson said, "the technological boom of the Information Age enables Travel Montana's Superhost Program to respond instantly to satisfy them."

For more information on the Superhost Program contact Shawn Peterson (444-2654) from the Department of Commerce.

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Internet... The Series Communicating on the Net

In last month's article we explored the many facets of navigating the net. Navigation, as you recall from that article, was one of the three *conceptual* categories of Internet resources, with communications and data being the other two categories. From the title of this article one could conclude that the communication category of Internet resources, which includes services that allow users to communicate with one another over the Internet, will be discussed this month.

While the Internet's capability of providing instant access to massive amounts of information is having a significant effect on society's

Calendar of Events

May 3:
Information Technology Managers Group (ITMG) meeting, 8:30-10:30, Cogswell Room C209.

May 5:
Montana Oracle/PowerBuilder User Group (MOPUG) meeting, 9:00-12:00, Helena College of Technology Room 210.

May 8-10:
1995 Montana GIS Pre-Conference Workshops and Users' Conference, Best Western Colonial Inn, Questions - call Kris Larson (444-5691).

May 16:
Information Technology Advisory Council (ITAC) meeting, 8:30-12:00, DNRC Room 111.

May 19:
GIS Seminar - Dan Long, MSU Agricultural Experiment Station, will give a presentation about using a combine & GIS to analyze & visualize crop yield data. Montana State Library Conference Room 208. Questions - call Kris Larson (444-5691).

May 23-24:
Tentative: Microsoft to come and talk with the State about Windows 95, NT, Microsoft Mail, Microsoft Exchange, Microsoft Access, and the status of the various Windows platforms in relation to Novell's SuperNOS and DCE compliance. Details will be forthcoming as plans are finalized.

May 29:
Memorial Day Holiday.

June 2:
Montana Oracle/PowerBuilder User Group (MOPUG) meeting, 9:00-12:00, Helena College of Technology Room 210.

June 7:
Information Technology Managers Group (ITMG) meeting, time and location to be announced.

conception of information exchange, its most profound effect may be in the area of communications. By providing a worldwide link between a variety of electronically-based communications systems, the Internet has made mass and interpersonal communications possible on a previously unimaginable scale.

The communications services that are available via the Internet are some of the more familiar computer-related services. Services such as electronic mail (e-mail), electronic bulletin board systems (BBS), Usenet, and Internet Relay Chat are also some of the most accessible. Though these services are often viewed as part and parcel of the Internet, they actually have an existence independent of the Internet. Nonetheless, their far-reaching impact on society is largely derived from the global interconnection provided by the Internet.

Just think... I could have communicated to the WORLD via the Internet!

Electronic Mail (E-Mail)

E-mail is a computer program that provides network users with the ability to send and receive messages to one another over a network. Many e-mail programs also have the capability to include computer files (documents, etc.) as attachments, send out copies (cc:) to other users, and confirm delivery of messages. Operationally, an e-mail program resides on a server and a user's computer accesses the program as a client.

Though there are a number of different e-mail programs on the market, most e-mail programs are able to exchange messages with one another. Therefore, the interconnection of networks means users can communicate with users on other systems using e-mail. If the value of an e-mail service is in proportion to the number of people with whom a user can communicate, then a network connection to the Internet makes that service very valuable indeed with individuals communicating with users across the world and vice versa.

"While the Internet's capability of providing instant access to massive amounts of information is having a significant effect on society's conception of information exchange, its most profound effect may be in the area of communications."

E-mail is one of the simplest communications tools to use. The e-mail program will ask the user whether they would like to read or send mail. If they want to send mail, the program will ask for the address of the recipient and the topic of the message. About all the user has to do is type in the message, though most e-mail programs also will give the user the option of uploading the message, an attachment or both.

The process of uploading and downloading files refers to the actual exchange of files between a host and a remote computer (or client). If a file is being transferred from a client computer to a host computer, then it is being uploaded; but if the file is being transferred from the host to the client, then it is being downloaded.

Electronic Bulletin Board System (BBS)

A BBS is quite literally a bulletin board, a place where individuals can electronically gather and exchange information. Information can be exchanged in the form of e-mail and files or users can talk directly with one another using the computer equivalent of telephone lines.

For the most part, host computers containing BBS software are accessed by client computers using telephone lines and modems. Though telephone connections are sometimes unpredictable, they do provide a means for people to access BBS's regardless of location. The ability to electronically create a town square environment without people being physically present has resulted in the emergence of *virtual communities*. A virtual community is a group of people who share common social and/or professional interests using computer-mediated forms of communication such as BBS's. The virtual community aspect of BBS's is what makes them such an intriguing and powerful communications tool, and one of the primary reasons for the surge of interest in commercial BBS's services such as CompuServe, Prodigy and America On-Line.

There are tens of thousands of BBS's in the United States alone, many dedicated to specific subjects. The State of Montana's Electronic Bulletin Board System, which is operated by Montana's Department of Administration, Information Services Division as an electronic clearinghouse for state government information, is an example of a dedicated BBS. Those interested in accessing the State's BBS can dial-in by using the following telephone numbers: (406) 444-5648 or (800) 962-1729 (toll-free in Montana). For more information on the State's BBS, call the ISD Customer Support Center (444-2000).

As the Internet increases in popularity, more and more of these BBS's are providing *gateway connections* to the Internet. A gateway connection allows users to access the Internet from their BBS.

Of course, a gateway connection to the Internet makes a BBS more attractive to potential users. It can also provide Internet access to people without network connections.

In addition to gateway connections, BBS's provide a number of other services including e-mail (discussed earlier), *forums*, *conference rooms*, and *file libraries*. *Forums* are electronic compartments of the BBS where e-mail messages on a particular subject are stored, like electronic file folders that users can browse through at their convenience. More than anything else, forums keep the BBS organized and make it easier for people who are interested in the same subject to find each other.

Conference rooms are used as a point of contact between users logged onto the BBS at the same time. Users may "enter" a conference room and talk with one another using their keyboards and monitors.

File libraries are used for the storage of files on the BBS. In this respect, file libraries are no different than the file directories familiar to most computer users. Users "enter" a file library to discover what files are available for downloading. For the same reason BBS's have a number of different forums, BBS's usually have more than one file library.

"By providing a worldwide link between a variety of electronically-based communications systems, the Internet has made mass and interpersonal communications possible on a previously unimaginable scale."

Many file libraries have a file entitled **README**. The **README** file contains information relevant to the file library (e.g., who created it, how to contribute, directions for downloading or uploading files, etc.). Another common file is **FAQ.TXT**, a text file that contains answers to the most *frequently asked questions* about the file library or the files themselves. Sometimes a file library will contain copies of the same information only in different formats. For instance, a certain file may exist in two different formats, one as a text file - .txt (ASCII) and another as a .w51 which is a WordPerfect version 5.1 format. File libraries have copies of a file in different formats so that users can access the version that works best with their software and computer.

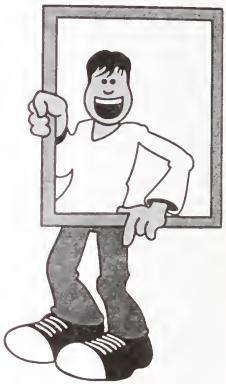
Usenet

Despite a name that suggests the existence of a network, *Usenet* is actually a communications-type service used to exchange public messages, including articles, news items and notices. Usenet is made up of a large collection of *newsgroups*, each devoted to a particular subject. Similar to a BBS forum, a newsgroup functions as an electronic file folder, holding all the messages related to a particular subject.

Usenet differs from a BBS forum in one important respect. Messages in a forum reside on the BBS's computer (server) and users access it to leave and retrieve messages. Newsgroup messages, on the other hand, are delivered to all participating Usenet computers. This is accomplished by Usenet servers distributing the messages to Usenet clients, a process known as providing *newsfeeds*. Utilizing this client-server system, and relying on some clients to also act as servers, Usenet messages are rapidly distributed all over the world within a couple of days.

Individuals access Usenet messages on their local server with a computer program called a *newsreader*. The newsreader keeps track of what newsgroups the individual follows and retrieves messages only from those newsgroups. There are a number of different newsreader programs with names such as *nn*, *rn*, *tin* and *trn*. The individual will need to experiment with these programs to decide which program works best.

Picture this... news on the Net!



When the newsreader first presents a list of the available newsgroups (remember Usenet servers do not usually carry every newsgroup), the user may find the newsgroup names confusing because of their resemblance to Internet addresses. The names actually are fairly easy to decipher once the user becomes acquainted with their hierarchical conventions. The following are examples of actual newsgroup names:

alt.politics.reform
comp.human-factors
k12.ed.math
sci.aeronautics
sci.engr
soc.rights.human
talk.politics.mideast
talk.environment

The following is a list of the more common hierarchies and their meanings:

alt	Alternative newsgroups, off the beaten path.
biz	Business, marketing and advertisement.
comp	Computers.
k12	Kindergarten through high school education.
misc	Rudolph-the-reindeer newsgroups (don't fit in).
rec	Recreation and all things fun.
sci	Science.
soc	Social issues.
talk	Debate on controversial topics.

Talk and Internet Relay Chat (IRC)

Talk and IRC are two of the simplest communication-type services available over the Internet in that they involve traditional person-to-person communication, just like a telephone conversation. The twist is that communication is achieved by typing messages on a computer keyboard instead of speaking into a telephone handset.

Using the Talk command and an Internet address, the Talk program connects a user's computer to another computer. If the user wished to Talk with Auggie Gallito at the Montana Department of Administration's Information Services Division, the following command would be entered:

talk agallito@isd.doa.mt.gov

If Mr. Gallito is logged onto **isd.doa.mt.gov**, then Talk will establish a communications channel and the typing may begin.

IRC is analogous to a conference call. The IRC program dedicates a *channel* on the Internet and anyone who wishes to participate in an IRC discussion has only to access the channel and start typing. The user initiates the IRC program using, what else, the **IRC** command.

Next month we will discuss the last of the three conceptual categories of Internet resources - ***DATA***.

Do You Know What CBT Stands For?

Strapped for cash? There isn't enough money in the budget for training? ISD comes to the rescue! ISD owns Computer Based Training (CBT), self study materials, videos, tutorials, and books which can be benefical to you in your training needs. Each month, *ISD News & Views* will feature several of these training materials.

Employees of any State agency can check out the training materials from the Helena College of Technology Library by contacting Lois Baker (444-2743) via phone or by ZIP!Mail. (During July or August, please contact Robyn Nelson (444-6821) to check out these materials.) ***Next to each item is listed an STM number. Please specify this number to expedite checking out items from the Library.***

Please check with your Training Coordinator or Network Administrator to ensure that you are following your agency's training and network guidelines before using these training materials. Questions on server access, Windows setup, or software installation should first be directed to your Network Administrator. For additional questions, or to obtain instructions on accessing CBT from the Value Added Server, call Irvin Vavruska (444-6870) from ISD.

Listed below is a partial list of ISD's training materials:

FirstClass Systems

These CBT courses (STM 45, STM 46, and STM 93 through STM 96) are available in single user licenses. They are DOS-based and consist of Personal Review Notes (manual) for each course. Within the manual will be a set of diskettes and a reference manual.

The CBT is available in two ways:

(1) A single user license may be checked out from the Helena College of Technology Library. You will then need to install the software on your own PC.

(2) A dedicated PC at the Helena College of Technology Library with access to the CBT software is available for your use ***if the software is not currently checked out****. Access to this PC will be limited during July and August.*

STM 45: JCL/ESA Coding Level I (ESA)

Provides a practical overview of job processing functions, JCL commands, and the use of JCL with the MVS/ESA operating system. It teaches how to successfully write, interpret and debug JCL jobstreams. ***(STM 45 is a prerequisite for the JCL class taught by the State Training Center at Helena College of Technology. This course must be finished prior to taking the JCL class.)***

STM 46: JCL/ESA Coding Level II (ESA)

Builds and expands on JCL Coding Level I. Enables programmers to effectively use MVS JCL.

STM 93: ISPF/PDF with TSO/E
Provides an extensive and practical introduction to the MVS TSO/E system and using the ISPF Program Development Facility (ISPF/PDF).

STM 94: REXX/TSO Programming
Teaches effective use of the REXX language, control statements and functions to perform terminal I/O, arithmetic functions and data and file manipulation in a TSO environment.

STM 95: UNIX Editors
Provides an overview of four editors and teaches the vi and emacs editors in detail.

STM 96: UNIX Essentials
Provides a basic understanding of the features and capabilities of UNIX and how to use the operating system.

Oracle/Relational Database

The courses STM 34 through STM 44 are available in both single user licenses and a network license. The single user licenses contain diskettes and a manual, while the network version (installed on ISD's Value Added Server) contains only a manual. When checking out these materials, please specify whether you would like the single user or network version (please read availability options listed below).

This is Windows-based CBT and requires that Windows be installed on the PC being used for the courses.

The CBT is available in two ways:

(1) Single user licenses may be checked out from the Helena College of Technology Library. You will then need to install the software on your own PC. This is Windows-based CBT and requires that Windows be installed on the PC being used for the courses.

(2) If you have Windows on your PC, and you are connected to the Novell backbone, you may access the CBT courses from ISD's Value Added Server (DOA_VAS_001). To gain access, simply authenticate yourself to ISD's Value Added Server if you are a user of NetWare 4.02. If you are not running NetWare 4.02, just login to DOA_VAS_001 using the GUESTxxx ID assigned to your agency. You must map drive G: to the GUEST directory using the command:

***MAP ROOT G:=DOA_VAS_001/SYS:GUEST**. Then copy the .GRP file G:\TRAINING\ORACLE\RC\CBT.GRP to your Windows program directory, and add a new Group icon to your Windows Program Manager. If you have any questions about gaining access to ISD's DOA_VAS_001 server, what your agency's GUESTxxx ID is, or adding the new CBT icon to your Windows Program Manager, contact your Network Administrator. The CBT located on the Novell backbone allows access to five simultaneous users. ISD recommends that you use your ACF2 ID for the CBT's Student Code when you are prompted to enter it.*

"ISD owns Computer Based Training (CBT), self study materials, videos, tutorials, and books which can be benefical to you in your training needs. Each month, ISD News & Views will feature several of these training materials."

STM 34: Introduction to Relational Databases and SQL
The basic concepts of relational database management systems and why they are becoming the dominant database technology.

STM 35: Understanding Relational Databases
A theoretical basis of relational database management systems.

STM 36: Application Programming with Pro*C
How to embed SQL statements in other programming languages.

STM 37: Using SQL*Plus
Using Structured Query Language (SQL) in two ways. On-line tutorial presents information on SQL, simulates actual SQL queries, and reinforces your knowledge with exercises. A workshop facility consists of a workbook containing exercises which you complete using ORACLE's SQL*Plus.

STM 38: Logical Database Design
A theoretical basis of relational database management systems.

STM 39: Advanced SQL*Plus
Using Structured Query Language (SQL) in two ways. On-line tutorial presents information on SQL, simulates actual SQL queries, and reinforces your knowledge with exercises. A workshop facility consists of a workbook containing exercises which you complete using ORACLE's SQL*Plus.

STM 40: Oracle Version 7 Tuning
A four-step tuning methodology for the Oracle7 database.

STM 41: SQL*NET and the Multi-Threaded Server
Describes the architecture of the multi-threaded server, defines the function of SQL*Net, and explains how transactions are processed in this new environment.

STM 42: Oracle V7 Administration
How to plan, create, start up and shut down a database, and how to manage database storage for optimal database performance.

STM 43: Student Assessment Module
Tests student knowledge of Relational Databases and SQL.

STM 44: Advanced Oracle V7 Administration
An overview of the administrative tasks you must perform to ensure the effective operation of your database system.

ITMG April Meeting

The Information Technology Managers Group (ITMG) met April 5, 1995 and heard updates from several subcommittees. Larry DeFrance, Chair of the Mid-Tier Technologies Subcommittee reported that the Vendor Selection Subgroup has heard presentations from five vendors about their respective mid-tier platform products. A first draft of an issue report is being worked on and the subcommittee hopes to bring it to the full ITMG in May.

The Enterprise Software Subcommittee reported that WordPerfect 6.1 resolves the problems identified with WordPerfect 6.0/6.0a and the committee has voted to continue with WordPerfect as the enterprise word processor. Randy Holm of ISD discussed the ongoing negotiations with WordPerfect to get free or low-cost upgrades for the 6.0 licenses already purchased by the state. Central Stores is also involved in the negotiations.

Linda Belflower of ISD reported on the SummitNet project. An implementation plan is being written by ISD staff. Drafting of a SummitNet Acceptable Use Policy is continuing. An RFP for the transport portion of the project is expected to be issued in May.

Disaster recovery was the topic presented by Kerry Spickelmier of ISD. See sidebar for the "Top **10**

And now, from the home office in Souix City Iowa, the Top 10 Reasons Why Your Agency Needs a Disaster Recovery Plan:

10. ☞**IT'S THE LAW**☜
. . . and you've all heard those **unsettling** stories about people who crossed the MCA line ------

FOR THOSE OF YOU WHO LIKE TO READ THE FINE PRINT,WE'VE PROVIDED SOME. . .

Section 2-15-114 of the MCA (*Montana Code Annotated)* mandates that department heads:

- ☞ "develop and maintain written internal policies and procedures to assure security of data and information technology resources" and
- ☞ "implement appropriate cost-effective safeguards to reduce, eliminate, or recover from identified threats to data and information technology resources."

9. One day ♪rock-and-roll♫ **will** play in Helena
. . . on the ✡**ground**✷ **NOT** on the radio.

8. You know the **common** sense your co-workers display daily????
. . . It becomes even **less** common during a disaster.

7. You're working late. Paul Rylander calls. "The 5:40 p.m. flight ✈ from Salt Lake has landed"
"On time **AND**. . .on ISD's mainframe."

6. Information is the **critical** business asset. But **DISASTER** has wiped out your Agency's data
. . . and now **your asset** is in a sling.

5. A viral epidemic strikes. Fortunately . . . **EVERY** Agency employee is vaccinated.
Unfortunately, **this** virus hits your software **hard**.

4. Your building's **ablaze**. But you **have** backup tapes!
. . .**IN** the building.

3. Disaster strikes. **No problem**. The disaster recovery plan resides safely in your head. . .
Only you're on a **two-week** camping trip through Glacier's **backcountry**.

2. That **disgruntled** employee quits. Thank goodness he won't be around to **play** with **your mind** anymore.
But on his way out, he **plays** with **your data**.

THE NUMBER ▸▸1◂◂ REASON
As MOTHER would warn☞
"In today's world, practice **SAFE** everything, **EVEN computing**."

Reasons Why Your Agency Needs a Disaster Recovery Plan". After completion of ISD's disaster recovery plan, guidelines and assistance will be provided to agencies for developing their own plans.

For more information on the Information Technology Managers Group, contact Art Pembroke (444-1794) of SRS.

WordPerfect 6.1 for Windows Macros

It is interesting to walk into an office and see a WordPerfect user begin to type a memo. They select Letterhead, hit the hard return 10 times, type: "To:, From:, Date: and Subject:" and finally begin typing the body of the memo. These are the same keystrokes used every time they type a memo. By developing a macro, they could save time and have the keystrokes recorded for future use.

Perhaps word processing users tend to shy away from macros because they are overwhelmed at the thought of learning macros. Keep in mind, a macro is simply a series of instructions or commands that can be invoked by certain keystrokes or clicks of a mouse button. If you find yourself using the same keystrokes time and time again, you may want to record them in a macro and simply "play" the macro when those keystrokes are needed.

To create a "Memo" macro in WordPerfect 6.1 for Windows, click on Tools, Macro, Record from the pull-down menu to display the Record Macro dialog box. Enter the name of the macro in the filename edit box. Use the default macro extension ".wcm" that is automatically placed in the box. Click on the Record button to begin.

- On the "Macro Record" screen, press the hard return 10 - 12 times (depending on where you want the "Memo" heading to begin.)
- Type "TO:", indent twice; double click on the Pause button. (This stops the macro to allow you to fill in the necessary information. Once you hit "Enter", the macro will continue to "Play".) Press Enter two times.
- Type "FROM:", indent once, double click on the Pause button, and press enter two times.
- Type "DATE:", indent once, click on Insert, Date Code from the pull-down menu. (This automatically fills in the current date when the macro is invoked.) Press enter two times.
- Finally, type "SUBJECT:", indent once, double click on the Pause button and press enter two times.
- To end the recording, click on the '?' and select Close. Since all the keystrokes of the macro are displayed on the screen simply close the document without saving.

To play the macro, click on Tools, Macro, Play. The macro will pause to allow you to fill in the necessary data and will end at the beginning of the memo text area.

Before you decide to record a macro, you should check and see if the macro already exists. WordPerfect 6.1 ships 36 macros with their product. To see a listing of shipped macros, click on Help from the Pull-Down menu and select Macros. Then double click on Additional Help, then on WordPerfect Macros. (You can print the list of shipped macros for future reference by clicking on File, Print Topic.)

> ***"Perhaps word processing users tend to shy away from macros because they are overwhelmed at the thought of learning macros. Keep in mind, a macro is simply a series of instructions or commands that can be invoked by certain keystrokes or clicks of a mouse button. If you find yourself using the same keystrokes time and time again, you may want to record them in a macro and simply "play" the macro when those keystrokes are needed."***

Some common macros shipped include:

- **CLOSING.WCM**
  Creates a custom closing for letters
- **FILESTMP.WCM**
  Places the filename and path of the current document in a header or footer
- **LETTER.WCM**
  Addresses and formats a letter
- **PAGEXOFY.WCM**
  Places "Page x of y" in a specified position on the page
- **SAVEALL.WCM**
  Prompts to save open documents
- **WATERMRK.WCM**
  Prompts for text or a graphic to place in a watermark

If you have any questions about macros or any other WordPerfect 6.1 function, please call (or ZIP!) Sue Skuletich (444-1392) of End User Systems Support.

Don't be held prisoner to just 3 printers!!

Using More Than Three Printers Under Windows

If you regularly use more than three networks printers you probably find yourself resetting printer ports. For example, consider a user needs to use five printers: an HP LaserJet IIIsi, a PostScript capable printer, a Color LaserJet, an 11x17 capable printer, and a Plotter. Originally, the user would have had to swap the five printers around among the three LPT ports. The problem with this is that you always have to verify that the printer you need is assigned to the right port, and then, when you forget, you usually ending up sending something intended for the plotter to the LaserJet or the other way around.

"The problem with this is that you always have to verify that the printer you need is assigned to the right port, and then, when you forget, you usually ending up sending something intended for the plotter to the LaserJet or the other way around."

Fortunately, if you're running VLM's on your workstation, you can actually have up to nine network printers available at any one time. To enable this feature, you will need to:

1) Check with your NetWare Administrator to ensure that you will not be violating any of your agency's network standards.

2) Make a backup copy of both your NET.CFG and WIN.INI files before you make any changes.

3) In your NET.CFG add the following line to the NetWare DOS Requester section:

   NETWORK PRINTERS = 9

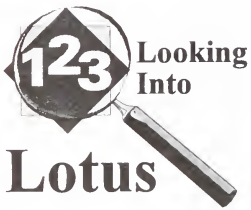
4) In your WIN.INI add the following lines to the [ports] section:

   LPT4:=
   LPT5:=
   LPT6:=
   LPT7:=
   LPT8:=
   LPT9:=

After you reboot your PC, you will have nine printer ports available for use under Windows. You can attach printers to these ports using the Control Panel. To do this, double-click on Control Panel from the Main Group under Program Manager. After Control Panel is loaded, double-click on printers. Select the printer you wish to attach to one of your new ports. Click on the Connect Button, then select the Printer Port you wish to use. Next, Click on Network. Click on the Printer Port you are using, then on the printer you wish to attach to that port. Click on the Capture, then on the Permanent Button. You should see the name of the printer or queue show up next to the LPT port you selected. You should also see a little printer icon to the left of the port. If you see a square box instead, click on permanent again. Now, click on the exit icon, click OK on the Connect Screen, and then click Close on the Printers screen. Finally, Exit Control Panel.

Now you should have the printer you set up available to all of your applications without having to change port mappings each time you need to use it.

If you have any questions about setting up multiple printers under Windows, call Forrest Christian (444-2921) from End User Systems Support.

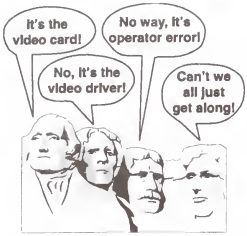


Printing an Apostrophe (') in a 1-2-3 Header/Footer

The apostrophe is a special character in the Lotus 1-2-3 for Windows 4.0 and 4.01 header and footer area. The apostrophe is a prefix that enables you to print other special characters, like the at (@) sign, plus (+) sign, and pound (#) sign.

Since the apostrophe is a special character itself, like the pound sign, you must put an apostrophe in front of it in order to print. For example, instead of entering Mayfair's Budget Report, enter Mayfair''s Budget Report.

For more information or questions on Lotus 1-2-3, call Jerry Kozak (444-2907) or Brian Divine (444-2791) both from End User Systems Support.



Video and Video Drivers Display Problems

The bygone days of a simple 16 color 640x480 VGA (Video Graphics Array) color setup are beginning to become a thing of the past. There was a time when all computers could function with the same video setup and any user could login to anyone's computer and use their video setup. That was before the introduction of new video cards, some of which include: Express PCI, Number Nine, Diamond Stealth, Diamond Viper, 128 Imagine, and the list goes on and on. Each video card requires the use of particular drivers which come with that specific card. So much for conformity.

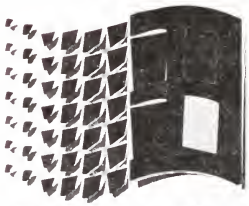
All of these cards claim to function with a normal 16 color 640x480 VGA setup. This is not always true. For example, the Number Nine cards work well in Windows, but when you go to a DOS application the screen has problems with refreshing and you either end up with the "Black Screen of Death" or multicolored lines and patterns. If you use the specific drivers that come with the card, then the video will function correctly.

The increasing need for high resolution 800x600 or 1024x780 video output has brought about the need for video drivers which support these resolutions. Many new software products require the use of an SVGA (Super Video Graphics Array) 800x600 video output. Microsoft Windows 3.1 does not come with drivers which support this level of resolution. If you wish to use these, then you need to use the specific drivers which come with your video card. Windows 3.11, not Windows for Workgroups, does contain Microsoft drivers which support these SVGA resolutions.

Working with video drivers is not an exact science. Changing video settings not only affects your visual output, but it can also influence printer drivers in certain programs and can cause conflicts between applications. Certain video drivers will reside in memory locations which another program must access. The only fix for some of these problems is to acquire "patches" from the video card manufacturer or the application vendor.

Most software manufacturers (Lotus, Microsoft, etc.) still only support standard VGA video setups because of all of the problems higher resolution graphics can present. The video card manufacturers are quick to blame the software and the software vendors are likewise ready to place the blame on the video card manufacturers. The software vendors may not be unreasonable when they say the problem resides with the video card manufacturers. Many of the new video cards are pushing the envelope of PC and monitor capabilities to produce their high resolution video output and ultra-fast refresh rates.

If you do need to use an SVGA video setting, then use the drivers that came with your video card. If you experience problems with a software program, then change your video settings back to a standard VGA mode and see if the problems still persist. This will help to determine whether the problem resides with the video card and driver or the software. If you do not have video drivers for your particular card, then use Microsoft's drivers from Windows 3.11. These will give you the best chance, other than using the actual drivers which came with your card, to achieve reliable video settings. If you have any questions about Windows or video drivers, call Brian Divine (444-2791) from End User Systems Support.



WINDOWS FREEBIES!

SysCap and SuperPad

PC Magazine has recently released two more free Windows utilities that may be of interest to State Windows users. One is SysCap, a utility that captures current screen images to a file (for later perusal) during the processing of the CONFIG.SYS file at boot time. The second utility is SuperPad, a replacement for the Windows Notepad that lets you edit files of any size, and adds switches to control batch processing of SuperPad. Edited versions of the documentation files for these utilities follow.

SysCap

Copyright © 1995 by Gregory A. Wolking
First published in *PC Magazine*, April 25, 1995, US Edition

SysCap is a program that captures the current screen image and writes that image to the file you specify. SysCap is a "dual-mode" program; you can either run it directly from the DOS prompt or use a DEVICE= statement in your CONFIG.SYS file to capture the screen while DOS processes the file. To install SysCap, just copy the SYSCAP.EXE file to any directory that's included in the DOS PATH and is on a drive that is immediately accessible when your system boots.

To use SysCap from the command line, the syntax is:

SYSCAP [filespec] [switches]

To use SysCap as a device driver, simply add a:

DEVICE=d:\path\SYSCAP.EXE [filespec] [switches]

statement to your CONFIG.SYS file immediately following the DEVICE= statement for any other device driver whose output you want to capture. Note that SysCap can be loaded "high" with DEVICEHIGH=, but there is no need to do so. SysCap does not remain resident in memory, so it will not affect your system's memory configuration. This behavior makes SysCap an excellent diagnostic tool; you can capture and examine the screen output from other device drivers without altering your system's setup. All of SysCap's command line parameters are optional. When installed (or run) with no parameters, SysCap will:

- Capture the text of the current screen to a buffer in memory.
- Convert any embedded control codes (ASCII 31 or lower) to periods.
- Remove trailing spaces from each line.
- Terminate each line with a CR/LF.
- Write the buffer to the file SYSCAP.TXT in the current directory, which SysCap will overwrite if it already exists. Note that SysCap only captures the text of the screen image; it makes no attempt to duplicate the screen colors.

SysCap tests for the following errors:

- The screen is not currently in a text mode, or is in a text mode that SysCap doesn't recognize (e.g., other than 25, 43, or 50 lines).
- SysCap cannot create the capture file (e.g., the name you gave is invalid, the directory does not exist, the disk is full, the file is marked hidden or read-only, etc.)
- A disk error occurred while writing to the capture file.

The biggest limitation is that when used as a device driver, SysCap cannot take effect until DOS begins processing CONFIG.SYS. Therefore, it will not be able to capture the screen output from adapter cards that are initialized during the POST unless that output is still on the screen when CONFIG.SYS runs. Similarly, if you are using MS-DOS's multi-config menu option, you will not be able to capture any information that's on the screen before DOS displays the menu since DOS does not begin processing DEVICE= statements until after you have made your menu selection.

Two new Windows utilities:

SysCap - a utility that captures current screen images to a file.

SuperPad - a replacement for the Windows Notepad that lets you edit files of any size, and adds switches to control batch processing of SuperPad.

SuperPad (Version 1.1)

Copyright © 1995, Douglas Boling
First Published in *PC Magazine* April 11, 1995 (Utilities)

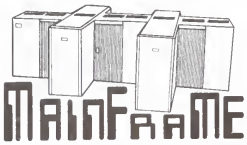
To install SuperPad, simply copy the executable file SPAD.EXE to a directory in your path. You may also want to add a Program Manager icon for SuperPad. The optional command line switches are as follows:

SuperPad [filename] [/Ln] [/Cn] [/R+|-] [V] [/F] [/P] [/Tn] [/W+|-]

The filename parameter specifies the file to be edited by SuperPad. The /L (line) and /C (column) switches let you specify the line and column where SuperPad is positioned when it opens a file. The /R (read-only) switch prevents files from being modified. You can change the status using the Read Only menu item. The /V switch is similar to the /R switch except that the read-only nature of the session cannot be modified through the Read Only menu item.

The /F (fixed) and /P (proportional) switches let you specify the type of font used to display the file. The /T switch lets you set the tab size. The last switch, /W, tells SuperPad whether it should wrap lines longer than the width of the SuperPad window. The /W+ switch tells SuperPad to wrap lines within the window; /W- tells SuperPad to use a horizontal scroll bar instead of wrapping.

Read *PC Magazine* articles of April 11 and 25, to get more details on these two utilities. To receive a free copy of SysCap or SuperPad, contact Denny Knapp (444-2072) of End User Systems Support via ZIP!Mail or by phone.



Automating the MVS Operating Environment

The Computer Operations Bureau began a project in August, 1994 to automate the operational functions of the data center in the Mitchell Building. The projects that have been identified to assist in this process are: Automated Console Operations; Remote Console Operations; MVS and CICS online monitors; Report Management and Distribution; and Job Scheduling. Following is a brief description of each of these projects.

AF/OPERATOR is a mainframe console automation software product that automatically responds to events that would normally require operator intervention. AF/OPERATOR is currently starting and stopping subsystems, restarting subsystems, suppressing non-operator action messages from the system console, changing the text of an unclear system message to make it more meaningful, responding to WTORs (write-to-operator messages), performing tasks at specified times of day/week, acting on specific messages from the console to perform operator functions. Specific code has been written to handle the above mentioned items.

AF/REMOTE performs various data center automation tasks from remote locations. We are currently using AF/REMOTE to emulate our IBM mainframe system console and operator console, and performing beeper-paging scenarios using hand-held pagers. It is also capable of monitoring the environmental control systems within the computer room (i.e. Liebert SITESCAN system), synchronizing the mainframe time to the national time service, communicating pre-recorded voice messages via a voice card application, and acting upon touch-tone responses.

We have been using Candle Corporation's OMEGAMON for MVS product for several years to monitor the "health" of the MVS operating system. Several additional OMEGAMON products have recently been acquired which will allow the Operations and Help Desk staffs to monitor both of the MVS operating systems (System A and System B), as well as all of the CICS regions, under one front-end package called OMEGAVIEW. These products work like thermometers, providing immediate notification of situations so that corrective action can be taken.

Mobius Management Systems' INFOPAC-RDS is a report management and distribution system that has just been acquired through an extensive RFP process. INFOPAC-RDS is designed to take reports generated by your application programs and build individualized information packets for those who receive the reports. Reports can be formatted for online viewing (via 3270 emulation or Windows environments), hardcopy (central or distributed printers), microfiche and tape. By viewing reports online, the costs associated with report production and distribution are dramatically reduced. We are just beginning the installation, training and testing of this product. You will be hearing more about this in the next edition of *ISD News and Views*.

Enterprise-wide job scheduling packages are currently being evaluated to provide distributed, automated job scheduling on our MVS system. The product selected will manage our batch processes, optimizing the physical and logical resources on our operating system. Step-level condition code checking will enhance the throughput, and automated job restart processes will assist in many of the manual processes that are required today.

We will continue to provide you with information regarding these projects as they progress.

Mainframe Usage Continues To Grow

In my last article I touched on some very basic performance information concerning the State Mainframe Computer. This month I would like to share some of the growth data that has occurred during the last year. During the past year practically every system resource has seen a considerable consumption increase, some beyond what had been forecasted to occur. Charts 1 and 2 show a little of that growth.

Chart 1 shows steady growth in CPU

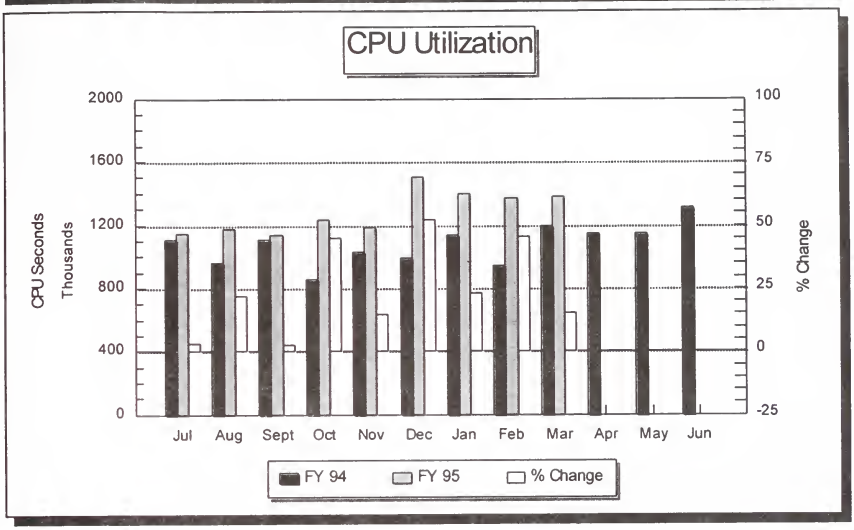


Chart 1

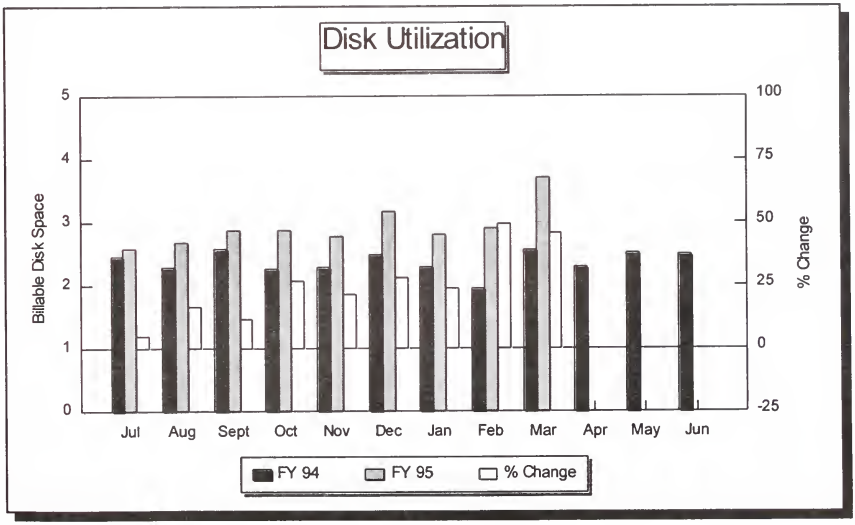


Chart 2

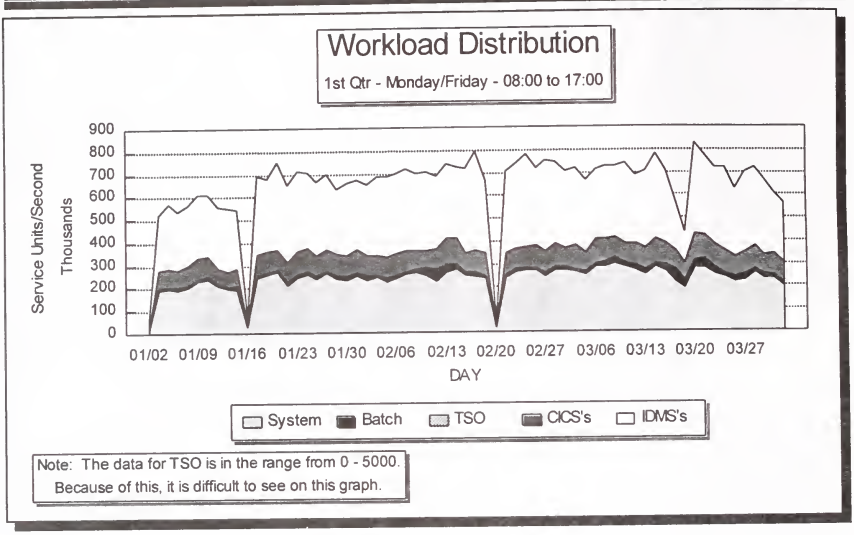


Chart 3

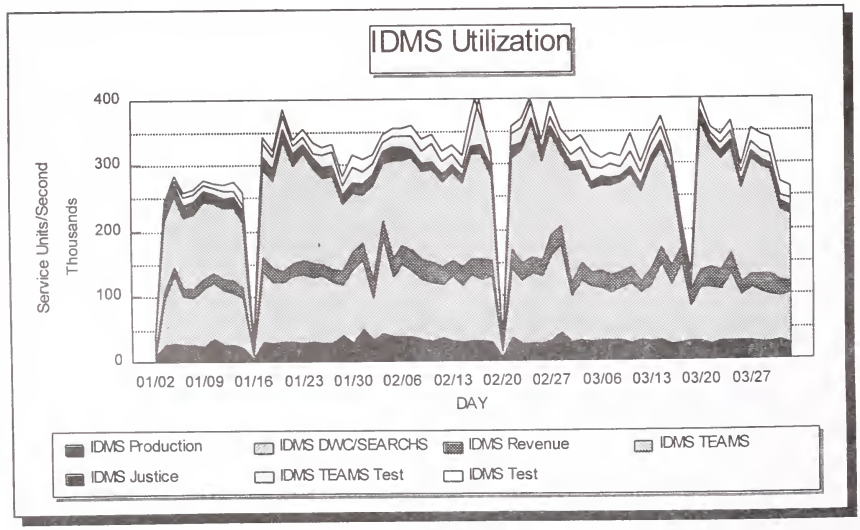


Chart 4

seconds from fiscal year 94 to 95 and if we look at the year to year values for October, December, and February those months exhibit about 50% greater resource consumption than the corresponding month the year before. Looking at only the value for July of FY95 (about 1150) and comparing that with the value for March of FY95 (about 1380) we see that for these nine months of FY95 we have experienced 20% growth. Twenty percent growth is a pretty hefty amount, especially considering the mainframe was not supposed to grow appreciably.

Let's look at disk space, another area that is experiencing tremendous growth.

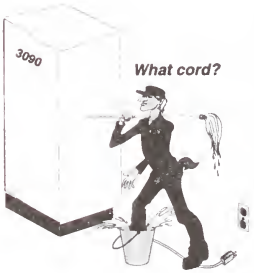
Chart 2 shows a calculated amount based on billing data. Notice that FY94 values are pretty static remaining in the 2.5 billion byte range most of the year. FY95 is a much different story as our disk space utilization is approaching 3.75 billion bytes. For the fiscal year our disk growth is over 40%. Now that's a lot of data!

Now let's see where the CPU spends its processing time. Chart 3 has classified the workloads on the system into five broad groupings, to show where the CPU spends time processing. These groupings are arbitrary but tend to show workload by similar type. System includes all of the system tasks that make the system usable by the data center customer, providing such things as terminal access, security, resource management, and system monitoring and control. Batch and TSO, which should be self explanatory, are pretty minor during first shift compared to the major workloads represented by the CICS and IDMS applications. It is in the on-line CICS/IDMS area where the bulk of the State's information processing occurs during the daytime hours, so let's see one more chart to look at that IDMS area a little closer.

Chart 4 shows where the CPU spends its time in the IDMS applications.

One last note on the Workload Distribution chart and the IDMS Utilization chart. The lower utilization values on January 16 and February 20 are holidays and the low value on March 17 is due to the TEAMS application being down for a programming enhancement to include the new MACCS application.

For questions on mainframe growth or utilization, contact Craig Smith (444-3458) from Operating System Support.



Power Problem On the IBM 3090/400J Mainframe

On April 3 at about 2:00 a.m., a voltage regulator on one of the motor generators for the IBM 3090/400J mainframe went out. There are four motor generators in the 3090/400J, each supplying power to one of the four processing units. Processing units in the 400J are grouped in pairs, so when one of the motor generators was down, the paired one was also not functional. This left the mainframe with only half the channels (32) to devices, half the memory (256 MB) and half of the processing power (42 MIPS) that it normally has. Technical Services designed the MVS/ESA operating system so all devices can be accessed from either half of the CPU, so ISD's mainframe was able to continue running after a short outage. Due to this diminished capacity, all batch jobs were held between 8:00 a.m. - 12:00 p.m. and 1:00 p.m. - 5:30 p.m. We also limited the number of TSO users to 25 during this time. Response time for the online systems (CICS and IDMS) was slow. IBM's service people were able to get a new part here in Helena by the afternoon of April 3. At 5:30 pm, the MVS system was brought down, the part was installed and the system was back up in production mode by 7:00 p.m. We want to thank all the users of the MVS mainframe for their patience and understanding during this time.

Scheduling Your Mainframe Work

Generally, when you submit jobs to run on the mainframe, the Computer Operations people don't need to know about it. To them, your jobs

are pretty much like the thousands of others that run every day. However, there are exceptions to this and some times it is necessary to notify us to schedule jobs to be run. These jobs are those that have user or application imposed requirements and those which require excessive system resources. In addition to batch jobs, you should also schedule on-line processing outside the hours that the on-line applications are normally available. Following are guidelines to follow when determining whether to call to schedule your mainframe work. Please call and let us know about any of the following:

- Batch job submitted for over night processing for which someone is on call
- Batch job submitted for over night processing which has some sort of predecessor requirement (another job must complete previous to it, on-line updates must first be completed, etc. Do not assume that jobs will run in the same order in which they are submitted.)
- Batch job submitted for over night processing which must run after a specific time
- Batch job which is expected to exceed a wall clock run time of three hours
- Batch job which uses more than five cartridge tapes in any one job step
- Batch job which is expected to print more than 1,000,000 lines on the impact printer or more than 10,000 sheets of paper on the laser printer
- A series of batch jobs which, individually may not require a lot of time, but overall require extensive time
- Any series of more than 30 jobs, regardless of how long they run (Please call prior to submitting these jobs. You may be asked to submit them to a specific class or to the hold queue.)
- Plans to do on line processing at a time when the database or subsystem is not generally available
- Any job which may require special handling or consideration not described above

Keep in mind that if you submit a job to the hold queue and have not scheduled it, the systems operator will release and run that job at his/her discretion. He/she will not wait for the user to release it. Also, when planning to use the system during non prime shift, please watch for broadcast messages relating to system or network outages. The Computer Operations staff will be as accommodating and as flexible as possible in processing the mainframe workload. However, occasionally, it may be necessary to cancel a job or force a user off the system to prevent degradation of system performance or to allow for system backups and maintenance. By scheduling in advance, you can avoid such a problem.

If you have daily or weekly jobs which need to be scheduled, they may be put on the permanent schedule, thus eliminating the need to have them scheduled every time they are to run. To schedule mainframe work, or if you have a question about what needs to be scheduled, please contact Mike Krings (444-1815) by phone or by ZIP!Mail. If you are unable to reach Mike, please contact Sherry Leone (444-2597) or Dave Smith (444-2857).

Don't hog the resources!

Using SYNCSORT to Copy Files

Want to save time and money the next time you do a file copy on the mainframe? Here's some information that could help you do both! SYNCSORT has a copy feature that is fast! Test comparisons show savings in wall clock time, CPU time, and DASD EXCPs. A test file containing over 15,000 records, 845 bytes in length, block size of 8450 was copied using both SYNCSORT and IEBGENER. The job statistics are shown in Figure 1.

These numbers may vary according to the type and size of the file you are copying but you should still experience a noticeable savings.

To use the SYNCSORT copy feature, set your job up as you normally would for a SYNCSORT

	SYNCSORT	IEBGENER
Wall Time (approx.)	00:01:33	00:03:25
CPU Time	00:00:00.4	00:00:11.2
DASD EXCPs	102	30,405
Cost	$2.23	$14.39

Figure 1

```
    //SORT    EXEC PGM=SORT
    //SYSOUT      DD SYSOUT=*
    //SORTIN      DD DSN=INPUT.FILE,DISP=SHR
    //SORTOUT     DD DSN=OUTPUT.FILE,DISP=(NEW,CATLG,DELETE),
    //                 DCB=(RECFM=FB,LRECL=845,BLKSIZE=8450)
    //SYSIN       DD *
    MERGE FIELDS=COPY
or
    SORT FIELDS=COPY
```

Figure 2

execution. The SORTIN DD statement describes the file you want to copy from. The SORTOUT DD statement describes the file you want to output. Use the SORT or MERGE control statement with the FIELDS=COPY control field. SYNCSORT will use the BLKSIZE from the input file if you do not specify the output BLKSIZE or pre-allocate your output file. This may lead to inefficient blocking of the output file so it is recommended that an output BLKSIZE be coded in your JCL. Figure 2 shows an example of the basic JCL needed to run a SYNCSORT copy.

"Want to save time and money the next time you do a file copy on the mainframe? Here's some information that could help you do both! SYNCSORT has a copy feature that is fast! Test comparisons show savings in wall clock time, CPU time, and DASD EXCPs."

You can utilize other SYNCSORT capabilities such as INCLUDE/OMIT, INREC, OUTREC, OUTFIL, and STOPAFT which, among other things, will allow you to specify output record format, input selection criteria, and number of records to copy.

SYNCSORT will also allow you to backup your VSAM files at a faster rate than IDCAMS/REPRO. Using the same JCL/parameters as outlined above, a VSAM file with 8189 byte records blocked at 8189 was copied with a new block size of 27998. The SYNCSORT copy cut CPU seconds by 52%, EXCPs by 95%, and cost by 73%. Again, these numbers will vary according to the type and size of the file you are copying.

Any questions? Call either Glen Stroop (444-2910) or Bill Ramsay (444-2902) from ISD.

XPEDITER for the Mainframe Programmer

ISD has signed a licensing agreement with COMPUWARE for their XPEDITER products. XPEDITER is one of the premier testing and debugging software products on the market today.

The products we purchased are XPEDITER/TSO and XPEDITER/CICS. XPEDITER/TSO can be used in the batch environment to test and debug COBOL, COBOL2, and PL1 programs. XPEDITER/CICS can also be used to test and debug COBOL, COBOL2, and PL1

programs running under CICS.

Some of the product feature are:

XPEDITER/TSO
- Dynamic file allocation from your execution JCL
- Automatic abend detection
- Review execution in the reverse direction
- Analyze program logic

XPEDITER/CICS
- Automatic abend detection
- Analyze program logic
- Interface with AbendAid/CICS
- VSAM File Utility

Two training sessions have been scheduled at the Helena College of Technology:

- **Training for XPEDITER/TSO will be held on May 16 from 9:00 to 4:00**
- **Training for XPEDITER/CICS will be held on May 17 from 9:00 to 4:00**

You must fill out the attached registration form at the end of this issue and send it to the address listed on the form.

Any comments or questions should be directed to Glen Stroop (444-2910) from Systems Development Support.

Mainframe Change - "NOT CATLGD 2" Error Survey Results

In the February 1995 issue of *ISD News & Views* there was an article about the "NOT CATLGD 2" error. This described a problem mainframe programmers and I/O controllers have experienced for many years. In it we stated that we now have the ability to change this from what is essentially just a warning into a hard JCL error that will stop processing in the step where it occurs. Since this is a system wide change which affects everyone, and not something that individual jobs can control, we asked for people to vote either for or against the change. Out of sixteen total votes received, fourteen were in favor of making the change and two were against. A number of people were very strongly in favor.

Because of the overwhelming vote, we have decided to put it into effect as of **Sunday, June 4th, 1995**. We picked this date in order to avoid disrupting users at critical processing times; it occurs shortly after Month End but well in advance of Year End. If this date comes at a bad time for any of you, please contact Dennis Buswell (444-2881) or Robin Anlian (444-2898) either by phone or ZIP!Mail.

Term Contract Status

ComputerLand of Helena

IBM is introducing two new PC SERVERS.

IBM PC SERVER 320 - an entry enterprise LAN server for industry standard technologies. It significantly expands the function of IBM's industry standard PC Server 300 line which is designed for PCI and EISA bus architectures.

The 90MHz Pentium processor subsystem with SMP upgrade-ability, coupled to a PCI advanced bus and state of the art PCI SCSI-2 Fast/Wide or SCSI-2 Fast/Wide RAID controller, create a high performance LAN server platform to handle heavy file server applications or moderate database applications.

With these improved features, the servers are ideal for advanced interconnected LANs found in large and medium businesses running critical and non-critical business applications. (The PC Server 320 array models use RAID 1 or 5 and are configured with EOS memory). Another key feature is the Pentium 90MHz microprocessor with second ZIP socket for symmetrical multi-processing (SMP) upgrade.

IBM PC SERVER 720 - an advanced multi-processing enterprise LAN server. It expands servers with both the Micro Channel and PCI bus architecture as well as SMP with one to six processors.

The 720's are ideal servers for the more complex and advanced interconnected LANs for medium and large businesses running critical business applications.

IBM THINKPAD 701C/CS - a new, unique, full-size notebook, keyboard and display in a compact, 4.5-pound package.

The innovative design of the expandable keyboard enables the full-size, 85 key Track Write keyboard to fit in the 7.9"x 1.7" package. In addition to the Track Write keyboard with TrackPoint III, you also have a choice of color displays: Active Matrix or Dual Scan. These systems are available with either an Intel 486 DX2 microprocessor or an Intel 486 DX4 microprocessor.

Options available are Dock II Adaptor Kit, Battery Pack, AC adaptor, external floppy drive and upgrade optional features - CD is also available.

ComputerLand of Missoula

Hewlett Packard is introducing two new LaserJet printers, the 5P and 5MP.

HP LaserJet 5P

- Print Quality: True 600 x 600 dpi
- Print Speed: 6 ppm
- Memory: 2 Mbytes standard, expandable to 50 MB
- Paper Handling: One 250 sheet universal cassette input tray, one

100 sheet (or 10 envelope) multi-purpose tray
- Printer Language: HP Enhanced PCL 5

HP LaserJet 5MP
The HP LaserJet 5MP offers all the same benefits and features as the HP LaserJet 5P, plus a few additional features developed specifically for Macintosh and Windows PostScript users and very small workgroups with mixed Macintosh/PC environments.

Digital/Wyle

Digital is introducing a new Mini-Tower processor.

DIGITAL CELEBRIS XL MINI-TOWER
Key system features:
- Pentium 90Mhz or 100Mhz single and dual processors.
- CISC-to-RISC upgradability to 233Mhz Alpha processor
- Memory system 9MB or 16MB (70ns) expandable to 192MB; 256KB secondary cache, 256KB burst secondary cache or 512KB burst secondary cache (dual processor 100Mhz models only)
- Mini-tower configuration with 6 slots, 5 bays
- Multiple levels of security

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Befuddled PC Users Flood Help Lines and No Question Seems To Be Too Basic

(The following excerpt is reprinted from the Wall Street Journal.)

Austin, Texas - The exasperated help-line caller said she couldn't get her new Dell computer to turn on. Jay Ablinger, a Dell Computer Corp. technician, made sure the computer was plugged in and then asked the woman what happened when she pushed the power button. "I've pushed and pushed on this foot pedal and nothing happens," the woman replied. "Foot pedal?" the technician asked. "Yes," the woman said, "this little white foot pedal with the on switch." The "foot pedal," it turned out, was the computer's mouse, a hand-operated device that helps to control the computer's operations.

Deadline/Editor's Note

If you would like to submit an article to *ISD News & Views* for publication, please send it to Curt Secker or Irv Vavruska, preferably via ZIP!Mail. Please have your article in by the date listed below for inclusion in the corresponding month:

June Issue	05-22-95
July Issue	06-20-95
August Issue	07-20-95

ISD Customer Support Center 444-2000

Got a problem (opportunity)? Do you need ISD assistance for any of your information processing requirements? Then contact the ISD Customer Support Center (formerly the Network Assistance Center), which is our central point of contact.

Distribution Notes

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Editors: Curt Secker and Irv Vavruska

ISD
Information Services Division

Training Calendar

This document has been assembled by the Helena College of Technology of the University of Montana. If you have any questions about enrollment, please call 444-6800.

All classes will be held at the Helena College of Technology, Room 210, at 1115 N. Roberts, unless another location is specified. Please note that these costs are subject to change each July 1st.

To enroll in a class, **you must send or deadhead an enrollment application** to the State Training Center, HCT, Helena, MT 59601. If you have questions about enrollment, please call 444-6800. *Once you enroll in a class, the full fee will be charged UNLESS you cancel at least three business days before the first day of class.*

	DATES	COST	LENGTH
Data Network/Mainframe Classes			
Novell Admin & Adv. Admin	May 8, 9, 10, 11, & 12	1000.00	5
XPEDITER/TSO	May 16	Free	1
XPEDITER/CICS	May 17	Free	1
TSO/SPF	June 6	85.00	1
JCL	June 7 & 8	170.00	2
Prereq. Must complete CBT (STM 45: JCL/ESA Coding Level 1, see related article "Do You Know What CBT Stands For?" in this issue)			
Novell Admin & Adv. Admin	June 19, 20, 21, 22, & 23	1000.00	5
Introduction to Oracle	June 27, 28 & 29	255.00	3
Prereq. Introduction to Windows			
Windows on NetWare	July 24 & 25		2
Introduction to Novell	July 17 & 18	170.00	2
TCP/IP	August 2	TBA	1/2
Microcomputer Classes			
Introduction to DOS	May 1	85.00	1
Prereq. Beg. Micro Skills			
Intermediate DOS	May 2	85.00	1
Prereq. Introduction to DOS			
PC Maintenance	May 16 & 17	170.00	2
Prereq. Working knowledge of DOS			
Introduction to Windows	May 23	85.00	1
Prereq. Beg. Micro Skills			
Intermediate Windows	June 1	85.00	1
Prereq. Introduction to Windows			
Freelance for Windows	June 8	85.00	1
Prereq. Windows			
Introduction to Windows	June 20	85.00	1
Prereq. Beg. Micro Skills			
Introduction to Windows	July 10	85.00	1
Prereq. Beg. Micro Skills			
Intermediate Windows	July 11	85.00	1
Prereq. Intro to Windows			
Word Processing Classes			
Advanced WordPerfect (DOS)	May 24 & 25	170.00	2
Prereq. Introduction to WordPerfect			
WordPerfect 6.0a for Windows	June 13 & 14	170.00	2
Prereq. Windows & WordPerfect			
WordPerfect 6.1 Conversion	June 15	85.00	1
Prereq. Windows & WordPerfect			
WordPerfect 6.1 for Windows	July 12 & 13	170.00	2
Prereq. Intro to Windows			
Spreadsheet Classes			
Introduction to Lotus (DOS)	May 3 & 4	170.00	2
Prereq. Beg. Micro Skills			
Lotus for Windows	June 6 & 7	170.00	2
Prereq. Windows & Lotus			
Lotus for Windows	July 19 & 20	170.00	2
Prereq. Windows & Lotus			

Prerequisites may be met with consent of Instructor.

The Helena College of Technology makes reasonable accommodations for any known disability that may interfere with a person's ability to participate in training. Persons needing an accommodation must notify the College no later than two weeks before the date of training to allow adequate time to make needed arrangements. To make your request known, call 444-6800.

R:BASE Questionnaire

R:Base users,

To specifically target *ISD News & Views* articles to questions held and the problems suffered by readers who are R:BASE users, information is needed. Please take a minute to answer the following questions. Then, cut out, fold, and return the form via deadhead or mail to Candace Rutledge at ISD.

1. What version of R:BASE are you using (Circle your choice).

2.11	*System V*
3.1	*R:BASE 5000*
R:BASE for OS/2	*R:BASE for Windows*
4.0	*4.5++*

2. Are you considering an upgrade? *YES NO*

3. If you answered yes to question 2, to what version would you like to upgrade? (Circle your choice).

3.1 *4.5++* *R:BASE for Windows*

4. Are you running your R:BASE application on a network server? *YES NO*

5. Are you a WINDOWS user? *YES NO*

6. Are there any R:BASE topics you would like to see addressed in an upcoming issue of *ISD News & Views* {Circle the topic(s) or enter another topic at OTHER:}

Specific programming commands such as IF...ENDIF or DECLARE CURSOR

Creating a new database

Creating or modifying application menus

Creating or modifying reports

Creating or modifying forms

Database maintenance

OTHER: _____

_____

_____

_____

7. Are you having a specific R:BASE problem that you would like to see addressed in an *ISD News & Views* article?

_____

_____

_____

_____

Cut Here

Fold Here

Mail or Deadhead To:

CANDACE RUTLEDGE
DEPARTMENT OF ADMINISTRATION / ISD
MITCHELL BUILDING ROOM 237
PO BOX 200113
HELENA, MT 59620-0113

ISD CLASS ENROLLMENT APPLICATION
COMPLETE THIS APPLICATION **IN FULL** AND RETURN
IT **AT LEAST ONE WEEK PRIOR** TO THE FIRST DAY OF CLASS

COURSE DATA

Course Requested: _____

Date Offered: _____

STUDENT DATA

Name: _____

Soc. Sec. Number (for P/P/P): _____

Agency **& Division**: _____ / _____

Mailing Address: _____

_____

Phone: _____ Agency #: _ _ _ _

How have you met the required prerequisites for this course? Explain, giving the class(es) taken, tutorial(s) completed, and/or experience.

_____

_____

_____

BILLING INFORMATION/AUTHORIZATION MANDATORY

Responsibility Center: _____

Authorized Signature: _____

FULL CLASS FEE WILL BE BILLED TO THE REGISTRANT UNLESS CANCELLATION IS MADE THREE BUSINESS DAYS BEFORE THE START DATE OF THE CLASS.

DEADHEAD COMPLETED FORM TO:
COMPUTER TRAINING CENTER
HELENA COLLEGE OF TECHNOLOGY
OF THE UNIVERSITY OF MONTANA
PHONE 444-6800 FAX 444-6892

Department of Administration
Information Services Division
Mitchell Building, Room 222
P.O. Box 200113
Helena, MT 59620-0113

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DEADHEAD